

POTENTIAL MASKING SYSTEMS AND METHODS FOR COMBINATORIAL LIBRARY SYNTHESIS

ABSTRACT

Methods and apparatus are provided for the preparation of a substrate having an array of diverse materials, the materials being deposited at spatially addressable, predefined regions. In particular, potential masking systems are provided which generate spatially and temporally varying electric, magnetic and chemical potentials across a substrate. These varying potentials are used to deposit components of source materials onto a substrate in a combinatorial fashion, thus creating arrays of materials that differ slightly in chemical composition, concentration, stoichiometry, and/or thickness. The diverse materials may be organized in discrete arrays, or they may vary continuously over the surface of the substrate. The shape of the potential allows the determination of the composition of the resulting materials at all locations on the substrate.